

## **Shared Storybook Reading Rate of Engagement: Coding Manual**

### **Coding Level #1**

The first level of engagement coding captures simply a time-based interval coding of basic level of engagement with the materials and/or experimenter. This level gives us a sense of how well the materials are capturing and sustaining the child's interest. There are three codes – not engaged, engaged, or unclear.

The codes are applied for 5-second intervals. Whichever state of engagement is present for 3 or more of the 5 seconds is the code that is applied to the entire interval. We can then calculate two dependent measures: (1) overall percentage of time in each engagement state (% intervals in each category, out of total intervals), and (2) mean length of engagement intervals (average number of consecutive intervals coded into each category)

1. NE: Not engaged -- The child is engaged (visually, vocally, conversationally) with neither E nor the computer for at least 3 out of 5 seconds.
2. BO: Engaged with either E and/or materials -- The child is engaged with either E and/or the materials (visually, vocally) for at least 3 out of 5 seconds.
3. UN: Unclear -- The engagement is unclear from the video. There may be two possible codes for engagement, the child may be outside the shot, or something may be blocking view of the child within the shot of the video.

### **Coding Level #2**

The second level of engagement coding is an event-based coding that is applied only to those intervals coded BO. This coding is applied each time the child overtly turns to the experimenter to include him/her – with eye contact, smiling, giggling, or an overt act of communication. This includes both acts that include an intentional act of communication (a point, a word) but also any other act of engagement like smiles, giggles, eye contact that are not accompanied by an overt intentional act of communication. *(note that a separate coding scheme examines just the intentional acts of communication in far more detail; see Communication Act Coding Manual – V4).*

From this, a rate of overt engagement is calculated based on the session length. This level of coding allows us to examine the extent to which the child specifically includes the experimenter in engagement, rather than just attending to the materials.

An example of how these two coding schemes work together to produce a characterization of the child's ongoing engagement is below: (this is just an excerpt for illustration purposes; most sessions last 10 minutes, not 2;30).

	Interval	Code level 1	Code level 2
	0	BO	
	5	NE	
	10	NE	
	15	BO	
	20	BO	
	25	BO	1
	30	BO	1
	35	BO	1
	40	BO	
	45	BO	
	50	BO	
	55	BO	
	60	BO	
	65	BO	1
	70	BO	1
	75	BO	1
	80	BO	
	85	BO	
	90	BO	
	95	NE	
	100	BO	
	105	BO	1
	110	BO	1
	115	NE	
	120	BO	
	125	BO	
	130	NE	
	135	NE	
	140	NE	
	145	NE	
	total # intervals		30
	session length (minutes;seconds)		2;30
	Level 1 engagement		
	# coded BO	22	
	% coded BO	73.33%	
	mean length BO	5.5	
	median length BO	2.5	
	Level 2 engagement		
	# acts		8
	# acts/min		3.2

From this, we can see that this child was engaged for 73% of the session, generally for between 5 and 10 seconds at a time. (because this sample is so short, the length is quite skewed; this issue is not a problem for the longer sessions). She overtly included/referenced the experimenter 8 times during this short sample, thus, demonstrated overt social engagement acts an average of 3.2 such acts per minute.